Part III
HIV PEPTIDE-REACTIVE MONOCLONAL ANTIBODIES

How to Use Part III:

Table of HIV-Specific Antibody-Peptide Reactivity

This section is an annotated table that summarizes monoclonal antibodies (MAb) with defined reactivity to peptides in HIV-1 proteins. Many of these epitopes have conformational components, but they are linear in the sense that they can react with a short linear peptide. MAbs that did not interact with linear peptides are not included in this table; in subsequent editions of this database we hope to include summaries of these MAbs as well. This section is organized by protein, with peptides listed according to their location, going from the N-terminal to C-terminal ends. Each MAb has a seven-part basic entry:

- **1) Location:** The amino acid positions that the reactive peptide spans and the sequence identification that was used as a basis for the peptide's sequence. The numbers are listed as found in the the referenced papers – frequently, these numbers as published are imprecise, and do not truly correspond to the numbering of the sequence, but they provide a reasonable guide to the peptide's approximate location in the protein. In many cases the sequence identification was not provided. Also, some reports gave slightly different boundaries for linear epitopes. We tended to list the minimal epitopes, and we tried to note discrepancies. (A very useful standard for future papers in this field would be to always include the exact amino acids of linear epitopes in primary articles, as well as the position numbers and the name of the reference sequence. This way epitope boundaries will be clear even if the numbering of the authors, or the readers, is not correct. Often either the position number or the sequence, not both, are included in the current literature.)
- **2) Name:** The name of the monoclonal antibody.
- **3) MAb:** Verification (y or n) that the Ab being considered is monoclonal; a few of the epitopes listed were defined on the basis of reaction with affinity purified sera and not monoclonals.
- **4) NAb:** Indicates if neutralizing activity has been reported for a MAb. P = primary isolate neutralization, L = lab strain neutralization, n = no neutralization, and ? = no data. This column was only included for gp120 and gp41 epitopes. There are distinctions between different neutralization assays; we ask database users to go to the primary literature to interpret the strength of the reported conclusions.
- **5) Peptide:** If overlapping peptides were able to interact with a monoclonal MAb, the region of overlap generally is given. Thus the epitopes listed are the central to the the binding domain, but antibody binding may certainly be influenced by mutations beyond the boundaries of the peptides given.

- **6) Immunogen:** The initial stimulus for the MAb is listed. In some cases it is infection, in others, vaccination.
- **7) Species(isotype):** The species of the source of the MAb, and the isotype information when available. Very occasionally, there were differences in the reported isotype. If this was was the case, we included the designation from the primary reference in which the isotype was determined.

Following each entry for a given MAb, there is a list of references, indicated by an open circle (○), listing studies that have included the MAb. This is followed by very brief comments that describe the context of a study that included a given antibody, or salient molecular information about the epitope. Each comment is indicated by a filled circle (●). Not all papers have accompanying comments. Many of those that do not either describe the first isolation of the monoclonal, or define the basic parts of each entry (peptide reactivity, isotype...). Also, in some cases, reports have conflicting conclusions. In this database, we have attempted to faithfully represent what authors describe in their publications. Contradictory comments extracted from different sources should be considered in the context of the primary publications – only then can distinctions between experimental methodology and study design be fully appreciated.
If you are aware of important studies that are not represented in this table, please notify Bette Korber at the Los Alamos database, so they might be included next year. We would be very grateful for any reprints or preprints that could be sent. A few HIV-2 and SIV epitopes or cross-reactivities are documented here, but we have focused on HIV-1 for the present.